

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of Atty. Docket: NL 030897US1

Johannis Friso Rendert BLACQUIERE, ET AL.

Confirmation No. 5339

Serial No. 10/564,911

Group Art Unit: 2627

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Examiner: PENDLETON, Dionne

Title: DEVICE AND METHOD FOR RECORDING INFORMATION

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Board of Patent Appeals and Interferences
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APPEAL BRIEF

Sir:

Appellants herewith respectfully present a Brief on Appeal as follows, where a
Notice of Appeal is concurrently filed, having paid the Notice of Appeal fee on September
23, 2010.

REAL PARTY IN INTEREST

The real party in interest in this appeal is the assignee of record Koninklijke Philips Electronics N.V., a corporation of The Netherlands having an office and a place of business at Groenewoudseweg 1, Eindhoven, Netherlands 5621 BA.

RELATED APPEALS AND INTERFERENCES

Appellants and the undersigned attorney are not aware of any other appeals or interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1-3, 5-8 and 10-23 are pending in this application, where claims 4 and 9 had been canceled and claims 2-3, 11-13 and 15-21 had been withdrawn. Claims 1, 5-8, 10, 14 and 22-23 are examined and rejected in the Final Office Action mailed in April 1, 2011. Claims 1, 5-8, 10, 14 and 22 are the subject of this appeal.

STATUS OF AMENDMENTS

Appellants did not file an after final amendment in response to a Final Office Action mailed April 1, 2011. This Appeal Brief is in response to the Final Office Action mailed April 1, 2011, that finally rejected claims 1, 5-8, 10, 14 and 22.

SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention, for example, as recited in independent claim 1, is directed to a device for recording information in blocks having logical addresses. As shown in FIG 2 and described on page 6, lines 20-24 of the specification, the device comprises recording means, such as the recording head 22 shown in FIG 2, for recording marks in a track on a record carrier 11 representing the information. The device further comprises control means, such as a control unit 20 shown in FIG 2, for controlling the recording by locating each block at a physical address in the track. As shown in FIG 2 and described on page 8, lines 16-20, the control unit 20 comprises addressing means, such as an addressing unit 31 for translating the logical addresses into physical addresses and vice versa in dependence of defect management information; and defect management means such as a defect management unit 32 for detecting track defects and maintaining the defect management information in defect management areas on the record carrier 11. As described on page 9, lines 10-16, the defect management information include assignment information indicative of assignment of physical addresses in first parts of the track to at least one user data area, and assignment of physical addresses in second parts of the track to defect management areas. The defect management information further include remapping information indicative for translating a logical address initially mapped to a physical address exhibiting a defect to an alternate physical address in a defect

management area, as described on page 11, lines 20-30. As described on page 10, lines 7-23, the control unit 20 further comprises assignment means, such as an assignment unit 34 for adapting the assignment information in dependence of a detected defect, detected during recording, by creating new defect management area having a starting physical address near the detected defect, wherein the new defect management area is preceded by a user data area.

The present invention, for example, as recited in independent claim 8, is directed to a method of recording of information in blocks having logical addresses located at a physical address in a track on a record carrier 11. As shown in FIGs 1-5 and described on page 6, lines 20-24; page 8, lines 16-20; page 9, lines 10-16; and page 11, line 31 to page 12 line 7 of the specification, the logical addresses corresponds to physical addresses depending on defect management information, and track defects are detected and the defect management information are maintained in defect management areas on the record carrier, where the defect management information include assignment information indicative of assignment of physical addresses in first parts of the track to at least one user data area, and assignment of physical addresses in second parts of the track to defect management areas, the defect management information further including remapping

information indicative for translating a logical address initially mapped to a physical address exhibiting a defect to an alternate physical address in a defect management area. As described on page 10, lines 7-23, the method comprises adapting the assignment information depending on a detected defect, detected during recording, by creating new defect management area having a starting physical address near the detected defect, wherein the new defect management area is preceded by a user data area.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1, 5, 8, 10, 14 and 22 of U.S. Patent Application Serial No. 10/564,911 are unpatentable over U.S. Patent No. 7,058,852 (Sims) in view of U.S. Patent Application Publication No. 2004/0057357 (Takahashi).

Whether claims 1, 5-8 and 23 of U.S. Patent Application Serial No. 10/564,911 are unpatentable over U.S. Patent No. 6,469,978 (Ohata) in view of U.S. Patent Application Publication No. 2002/0150009 (Tokumitsu) and Takahashi.

ARGUMENT

Claims 1, 5, 8, 10, 14 and 22 are said to be unpatentable over Sims in view of Takahashi.

Appellants respectfully request the Board to address the patentability of independent claims 1 and 8, and further claims 5-7, 10, 14 and 22-23 as depending from independent claims 1 and 8, based on the requirements of independent claims 1 and 8. This position is provided for the specific and stated purpose of simplifying the current issues on appeal. However, Appellants herein specifically reserve the right to argue and address the patentability of claims 5-7, 10, 14 and 22-23 at a later date should the separately patentable subject matter of claims 5-7, 10, 14 and 22-23 later become an issue. Accordingly, this limitation of the subject matter presented for appeal herein, specifically limited to discussions of the patentability of independent claims 1 and 8 is not intended as a waiver of Appellants' right to argue the patentability of the further claims and claim elements at that later time.

Sims is directed to a method and system for providing defect management of a bulk data storage media, where logical addresses of media data blocks are continuously slipped to omit all media data blocks determined to be defective at the time of an initial media format. It is alleged in the Final Office Action, page 3, last paragraph, that column 13, lines

47-58 of Sims discloses or suggests "assignment means for adapting the assignment information depending on a detected defect, detected during recording, by creating new defect management area having a starting physical address near the detected defect," as recited in independent claim 1, and similarly recited in independent claim 8. This allegation is respectfully traversed.

In particular, column 13, lines 47-58 of Sims specifically recite (emphasis added):

The sparing parameters, SI and SL, are contained in the defect management area (DMA) which, for example, may consist of 128 sectors reserved on the media for use as the defect management area. The DMA also contains information with respect to the primary defect list, i.e., slipping of physical addresses to logical addresses, and secondary defect list, i.e., replacement of defective blocks with sparing blocks. Accordingly, in the preferred embodiment, the DMA contains an active PDL, a backup or duplicate PDL, an active SDL, including a list of areas available for sparing, and a backup or duplicate SDL. With respect to the multiple copies of the PDL and SDL, the preferred embodiment reads all copies and uses the one with the highest sequence number.

The above noted portion of Sims merely describes what the DMA or defect management area contains, such as defect lists and a list of areas available for sparing. There is no indication in the above-noted Sims portion that any new defect management area is created depending on a defect detected during recording. Rather, the Sims defect management area has a fixed size, where information contained in the fixed-sized defect management area are changed, such as information in "the primary defect list, i.e., slipping of physical addresses to logical addresses, and secondary defect list, i.e., replacement of defective blocks with sparing blocks." (Sims column 13, lines 47-58)

Further, as correctly noted on page 4, paragraph one of the Final Office Action, Sims does not disclose or suggest that a "new defect management area is preceded by a user data area," as recited in independent claim 1, and similarly recited in independent claim 8. FIG 1 and paragraph [0036] of Takahashi are cited in an attempt to remedy the deficiencies in Sims.

Takahashi is directed to an information storage medium that include several areas. In particular, as shown in FIG 1 and described in paragraph [0031], the Takahashi medium comprises a spare area SA and user area UA between defect management area DMAs. The cited paragraph [0036] of Takahashi specifically recites (emphasis added):

[0036] In order to improve the fault tolerance of DMAs, when an active DMA has weakened, the information storage medium according to an aspect of the present invention is defined to shift defect management **information** stored in that DMA to a new DMA. It is determined that the DMA has weakened when the overwrite count of this DMA approaches an allowable overwrite count of the medium having the DMA, or when defects on this DMA increase, and error correction is more likely to fail.

That is, the DMA's in the Takahashi storage medium are already present, as shown in FIG 1, and no new DMA is created when defects are detected. Rather, a different pre-existing DMA is used, where this different pre-existing DMA is referred to as new DMA in Takahashi since it is different than the currently used DMA. Thus, the so-called new DMA in Takahashi is a pre-existing DMA and is not newly created. As the so-called new DMA in Takahashi is pre-existing, before any defects are detected, then it necessarily follows that the location of the so-called new DMA is not related to the location of any detected defect.

Thus, at best, the combination of Sims and Takahashi discloses or suggests changing or updating information stored in predetermined or pre-existing fixed-sized defect management areas, or moving the stored information from a weakened DMA to a so-called new DMA, where one of the predetermined or pre-existing DMAs is preceded by a user data area.

It is respectfully submitted that Sims, Takahashi, and combinations thereof, do not disclose or suggest the present invention as recited in independent claim 1, and similarly recited in independent claim 8 which, amongst other patentable elements, recites (illustrative emphasis provided):

assignment means for adapting the assignment information depending on a detected defect, detected during recording, by creating new defect management area having a starting physical address near the detected defect, wherein the new defect management area is preceded by a user data area.

Adapting the assignment information depending on a detected defect, detected during recording, by creating new defect management area having a starting physical address near the detected defect, wherein the new defect management area is preceded by a user data area, is nowhere disclosed or suggested in Sims and Takahashi, alone or in combination. Accordingly, it is respectfully submitted that independent claims 1 and 8 should be allowable, and allowance thereof is respectfully requested. In addition, it is respectfully submitted that claims 5, 10, 14 and 22 should also be allowed at least based on their dependence from amended independent claims 1 and 8.

Claims 1, 5-8 and 23 are said to be unpatentable over Ohata in view of Tokumitsu and Tokumitsu.

Ohata is directed to a rewritable optical disk with spare area or defect management formatted with different group configurations without changing the firmware. As specifically recited in the Abstract, the size of the spare area or defect management is specified at initialization. This is reiterated on column 8, lines 24-25, which specifically recites that "the sizes of the spare areas are specified at initialization of the optical disk." (Emphasis added) Ohata further recites on column 8, lines 29-36, noted on page 6, last paragraph of the Final Office Action (emphasis added):

If a sector in the user area cannot be used properly for recording or reproduction because of contamination or medium defect, a sector in the spare area is used instead of the sector that cannot be used for recording or reproduction.

It is alleged on page 6, last paragraph of the Final Office Action that "use" of the spare area as recited above noted portion of Ohata is interpreted to mean "creating new defect management area." (Final Office Action, page 6, next to last line) This allegation is respectfully traversed. It is respectfully submitted that, in Ohata, any 'creation' of any new defect management area, and specifying the size thereof, are performed at initialization, as specifically recited throughout Ohata, such as the Abstract, lines 24-25, and column 8, lines 24-25.

Even if, assuming arguendo, that 'creating' a new defect area means 'assigning an additional physical address range to a new additional defect management area' as recited

on page 10, lines 16-17 of the present application, and noted in on page 6, last paragraph of the Final Office Action, there is still no disclosure or suggestion in Ohata of such a feature of assigning an additional physical address range to a new additional defect management area.' Rather, (as in Takahashi) Ohata merely discloses using a different pre-existing spare area, which was 'created' at initialization, if a sector in the user area cannot be used.

Further, as correctly noted on page 7, fourth paragraph of the Final Office Action, Ohata, modified by Tokumitsu do not disclose or suggest that a "new defect management area is preceded by a user data area," as recited in independent claim 1, and similarly recited in independent claim 8. FIG 1 and paragraph [0036] of Takahashi are cited in an attempt to remedy the deficiencies in Ohata and Tokumitsu.

As argued above in the previous section, FIG 1 and paragraph [0036] of Takahashi merely disclose that the DMA's in the Takahashi storage medium are already present, as shown in FIG 1, and no new DMA is created when defects are detected. Rather, a different pre-existing DMA is used, where this different pre-existing DMA is referred to as new DMA in Takahashi since it is different than the currently used DMA. Thus, the so-called new DMA in Takahashi is a pre-existing DMA and is not newly created. As the so-called new DMA in Takahashi is pre-existing, before any defects are detected, then it necessarily follows that the location of the so-called new DMA is not related to the location of any detected defect.

It is respectfully submitted that Ohata, Tokumitsu, Takahashi, and combinations thereof, do not disclose or suggest the present invention as recited in independent claim 1, and similarly recited in independent claim 8 which, amongst other patentable elements, recites (illustrative emphasis provided):

assignment means for adapting the assignment information depending on a detected defect, detected during recording, by creating new defect management area having a starting physical address near the detected defect, wherein the new defect management area is preceded by a user data area.

Accordingly, it is respectfully submitted that independent claims 1 and 8 should be allowable, and allowance thereof is respectfully requested. In addition, it is respectfully submitted that claims 5-7 and 23 should also be allowed at least based on their dependence from amended independent claims 1 and 8.

In addition, Appellants deny any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Appellants reserve the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

CONCLUSION

Claims 1, 5-8, 10, 14 and 22 are patentable over Sims, Takahashi, Ohata and Tokumitsu.

Thus, the Examiner's rejections of claims 1, 5-8, 10, 14 and 22 should be reversed.

Respectfully submitted,



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CLAIMS APPENDIX

1.(Previously Presented) A device for recording information in blocks having logical addresses, the device comprising:

a recording unit for recording marks in a track on a record carrier representing the information,

a controller for controlling the recording by locating each block at a physical address in the track, the controller comprising:

addressing means for translating the logical addresses into the physical addresses and vice versa in dependence of defect management information,

defect management means for detecting track defects and maintaining the defect management information in defect management areas on the record carrier, the defect management information including assignment information indicative of assignment of physical addresses in first parts of the track to at least one user data area, and assignment of physical addresses in second parts of the track to defect management areas, and the defect management information including remapping information indicative for translating a logical address initially mapped to a physical address exhibiting a defect to an alternate physical address in a defect management area, and

assignment means for adapting the assignment information depending on a detected defect, detected during recording, by creating new defect management area

having a starting physical address near the detected defect, wherein the new defect management area is preceded by a user data area.

2.(Withdrawn) The device as claimed in claim 1, wherein the new defect management area includes the detected defect.

3.(Withdrawn) The device as claimed in claim 1, wherein the new defect management area has a predefined size, or a size based on defect parameters of a preceding or following recording area, including at least one of an amount and distribution of defect management areas already assigned, an amount of user area between the new defect management area and a preceding or following defect management area, and/or detected defects.

Claim 4 (Canceled)

5.(Previously Presented) The device as claimed in claim 1, wherein the new defect management area include a range of physical address in a part of the track originally assigned to the at least one user data area, the part of the track being a free space in the user data area.

6.(Previously Presented) The device as claimed in claim 1, wherein the device comprises a contiguous recording detection unit for detecting a series of blocks having a continuous logical address range to be recorded in a corresponding allocated physical address range, and

the new defect management area is outside the allocated physical address range.

7.(Previously Presented) The device as claimed in claim 6, wherein the contiguous recording detection unit is configured for detecting a continuous recordings indicator in a recording command, or for detecting the series of blocks representing real-time information, or for detecting file system information for detecting that the series of blocks constitute a file.

8.(Previously Presented) A method of recording of information in blocks having logical addresses located at a physical address in a track on a record carrier,

the logical addresses corresponding to physical addresses depending on defect management information,

track defects being detected and the defect management information being maintained in defect management areas on the record carrier, and

the defect management information including assignment information indicative of assignment of physical addresses in first parts of the track to at least one user data area,

and assignment of physical addresses in second parts of the track to defect management areas, and the defect management information including remapping information indicative for translating a logical address initially mapped to a physical address exhibiting a defect to an alternate physical address in a defect management area,

the method comprising the acts of:

adapting the assignment information depending on a detected defect, detected during recording, by creating new defect management area having a starting physical address near the detected defect, wherein the new defect management area is preceded by a user data area.

Claim 9 (Canceled)

10.(Previously Presented) The device of claim 1, wherein the new defect management area starts at a location of the detected defect.

11.(Withdrawn) The device of claim 1, wherein the assignment unit is configured to delay creation of the new defect management area until detection of at least a second detected defect.

12.(Withdrawn) The device of claim 1, wherein the assignment unit is configured to

delay creation of the new defect management area until detection of an at least second detected defect and to create the new defect management area starting with a location of the at least second detected defect.

13.(Withdrawn) The device of claim 1, wherein the assignment unit is configured to delay creation of the new defect management area dependent on parameters including at least one of a distance from the detected defect to the previous defect management area, an amount of space left in the previous defect management area, and an amount of defects detected since the previous defect management area.

14.(Previously Presented) The method of claim 8, wherein the new defect management area starts at a location of the detected defect.

15.(Withdrawn) The method of claim 8, wherein creation of the new defect management area is delayed until detection of at least a second detected defect.

16.(Withdrawn) The method of claim 8, wherein creation of the new defect management area is delayed until detection of an at least second detected defect and the new defect management area is created starting with a location of the at least second detected defect.

17.(Withdrawn) The method of claim 8, wherein creation of the new defect management area is delayed dependent on parameters including at least one of a distance from the detected defect to the previous defect management area, an amount of space left in the previous defect management area, and an amount of defects detected since the previous defect management area.

18.(Withdrawn) The method of claim 8, wherein the new defect management area includes the detected defect.

19.(Withdrawn) The method of claim 8, wherein the new defect management area has a predefined size, or a size based on defect parameters of a preceding or following recording area, including at least one of an amount and distribution of defect management areas already assigned, an amount of user area between the new defect management area and a preceding or following defect management area, and/or detected defects.

20.(Withdrawn) The device of claim 1, wherein the new defect management area includes a first detected defect and a second detected defect and extends at least from the first detected defect through the second detected defect.

21.(Withdrawn) The method of claim 8, wherein the new defect management area includes a first detected defect and a second detected defect and extends at least from the first detected defect through the second detected defect.

22.(Previously Presented) The device of claim 1, wherein the new defect management area is followed by a user data area or a free area, a free area being an area free to be assigned either as a user data area or a new defect management area.

23.(Previously Presented) The method of claim 8, wherein the new defect management area is followed by a user data area or a free area, a free area being an area free to be assigned either as a user data area or a new defect management area.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None